Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	1	ELYRIA	0084-NOPS-13-0166
Report Date	Incident Date	Incident Time	Copied From
10/22/2013	10/22/2013	07:00 AM	
Incident Location		Team Leader / Supervisor	Reported By
PR2 Mezzanine Above Tabletting Machines		Thomas Copa	Jack Pettry
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Dust Cloud While Filling Hoppers		☐ Safety & Health ☐ Environmental	CC / G-CCP

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☒ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

While operator was filling hoppers with the CU-0860 Material from a tote. A cloud of dust was formed from the material releasing from tote to hopper.

Immediate Corrective Action or Response

Had all people in area leave department until clear.

Immediate Cause

Under investigation

Spill Release Type(s)	Non RQ Spill / Release						
Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
CU 0860	N/A	Solid	0	0	0	5	lbs
Disposition of Material	Cu0860 powder released while charging hopper						
Weather Conditions	Skies:	Temperature:		Wind Direction:		Wind Speed:	

Cause Narrative

Material released too quickly into hopper.

Contributing Causes	Root/Primary Causes		
Design is not robust enough	15 - Design Input/Output	17 - Design Output LTA	17 - Design Output LTA
Difficult to control flow to hoppers	138 - Human Factors Engineering	160 - Intolerant System	161 - Errors Not Detectable

Explanation of Root Causes

17 - Design of system is not robust enough to prevent pluggage of system or spillage of material

161 - It is difficult to control flow to hoppers and employees do not always trust controls in place. Additionally, there are many means of loading the hoppers , some better than others.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00

Investigation Team	Thomas Copa; Leon Zavodnik; Jack Pettry; Mark Goodman; Charles Evans

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	B: Determine a better temporary means of loading the tabletting hoppers	Charles Evans/BASF-CATALYSTS/BASF	02/14/2014	03/03/2014	N	N
2	B: Scope out a project to better load the tabletting hoppers in working with process enginneering	Mark Goodman/NA/BASF	07/07/2014	05/14/2014	N	N
3	B: Review process for inspection and cleaning of dust collection system in PR2 with PR2 group. AIM 0084-NOPS-13-0166 involved a plugged 3 inch flexable dust collector line which affected ventilation/dust collection.	Thomas Copa/NA/BASF	12/13/2013	01/30/2014	N	N

Approved By:		
Manager / Dept. Head	**Jason M Therrien**	**11/27/2013 08:12 AM**
EHS Unit Coordinator	**Jason M Therrien**	**11/27/2013 08:11 AM**

Confidential

Accident / Incident Report Closed

BASF We create chemistry

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria		ELYRIA	0084-NOPS-14-0099
Report Date	Incident Date	Incident Time	Copied From
08/07/2014	08/06/2014	06:00 PM	
Incident Location		Team Leader / Supervisor	Reported By
PR2 Mezzanine		Charles Evans	Abdallah Ahmed
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
PR2 Tableting Hopper Filling Material Spill		☐ Safety & Health ☐ Environmental	CC / G-CCP

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

While filling a PR2 tableting machine hopper the Cu-1986 pill mix powder flowed in an uncontrolled manor and created a spill and dust cloud.

Immediate Corrective Action or Response

Stopped filling and vacuumed up spill

Immediate Cause

To be determined. Will know more after employee is interviewed.

Spill Release Type(s)	Non RQ Spill / Release						
Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Cu 1986 Pill Mix	N/A	Solid	0	0	0	10	lbs

Disposition of Material	Vacuumed up and placed in hazardous waste drum			
Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

While filling PR2 Hopper at station #2 the material became aerated and started to flow like water. The material filled the hopper and squirted out of the dust collection line that draws on the hopper. The full light did come on but after the hopper was overfilled. Based on operator interview fill indicator worked as designed but responded to slowly for the operator to react.

Contributing Causes	Root/Primary Causes		
high level fill indicator came on too late for operator to respond and shut off feed to hopper.	15 - Design Input/Output	17 - Design Output LTA	17 - Design Output LTA

Explanation of Root Causes

15-17-17 Tote filling hopper is significantly larger than the hopper. There is no visual cue for when the hopper is full. Level indicator has historically malfunctioned and is old technology. Material filling hopper ranges from poorly flowing requiring striking the tote to free flowing material that behaves like water.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	300.00 USD

Investigation Team	**Abdallah Ahmed; Mark Goodman; Ted Meek; Mark Sova**

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	check to see if a pm is in SAP maintenance and if not place one in system.	Mark Goodman/NA/BASF	08/29/2014	08/27/2014	N	N
2	investigate if better level control device is available and practicle for this application.	Kirk Sullenberger/BASF-CATALYSTS/BASF	10/31/2014	08/21/2014	N	N

Approved By:		
Manager / Dept. Head	**Abdallah Ahmed**	**09/08/2014 05:37 PM**
EHS Unit Coordinator	**Jason M Therrien**	**09/17/2014 01:17 PM**
	Confidential	

Accident / Incident Report Closed

BASF We create chemistry

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	**Copper - Building 10**	**ELYRIA**	**0084-NOPS-15-0008**
Report Date	Incident Date	Incident Time	Copied From
01/21/2015	**01/21/2015**	**09:00 AM**	
Incident Location		Team Leader / Supervisor	Reported By
APV Dryer Discharge Area		**Thomas Copa**	**Michael Kanuch**
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Cooper- APV Matcon Tote Product Release		☐ Safety & Health ☐ Environmental	**CC / G-CCP**

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

Operator was changing out a full tote and replacing with an empty tote on the APV Dryer in the Copper Department on the North end of plant. When he had latched down the APV lid. Tote built up pressure and when rotolock allowed product to release. Too much pressure caused bottom of tote's cap to open slightly, releasing CU-1879 material onto scale.

Immediate Corrective Action or Response

Product released for only a few seconds. Operator then made sure cap was secure and adjust the air for the APV lid to not have as much pressure. Operator also cleaned are immediately.

Immediate Cause

Investigating APV seal and butterfly valve.

Spill Release Type(s)	**Non RQ Spill / Release**						
Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Cu-1879	N/A	Solid	0	3	0	0	lbs

Disposition of Material	**Solid material released from bottom of tote.**			
Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

Changing out full tote with empty tote on the APV scale. When lowering lid to connect to tote. Pressure built up in tote and material that was filling in tote escaped through the bottom of the tote. There is a cone in this location that gapped due to the pressure, causing the material to escape onto the scale.

Contributing Causes	Root/Primary Causes		
The dust collection that was at the APV lid itself was removed, which put the control of the system at the butterfly valve. That valve was not open enough to allow for proper relief of displaced air.	192 - Communications	194 - No Communication or Not Timely	197 - Communication Between Shifts and Management LTA

Explanation of Root Causes

192-194-196: Operator was out when changes were made and failed to open butterfly valve.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00 USD
Investigation Team	Thomas Copa; David D Hritsko; Abdallah Ahmed; APV operator; Jack Pettry				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Operator cleaned area adjusted butterfly valve for suction of pressure.	Michael Kanuch/BASF-CATALYSTS/BASF	01/21/2015	02/02/2015	N	N
2	Adjust the butterfly valve open more to allow for the displaced air in the tote from product flow to be removed adequately, and ultimately, prevent the system from being pressurized.	David D Hritsko/NA/BASF	02/06/2015	01/29/2015	N	N

Approved By:	
Manager / Dept. Head	**Abdallah Ahmed 02/02/2015 04:01 PM**
EHS Unit Coordinator	**Tim Anglin 02/03/2015 08:24 AM**
	Confidential

Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	**Copper - Building 10**	**ELYRIA**	**0084-NOPS-15-0017**
Report Date	Incident Date	Incident Time	Copied From
02/13/2015	**02/12/2015**	**09:30 AM**	
Incident Location		Team Leader / Supervisor	Reported By
Copper Dept		**Thomas Copa**	**Ted Meek**
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Dusting Around Belt / APV		☐ Safety & Health ☐ Environmental	**CC / G-CCP**

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

Production manager and Group Leader were notified around 930PM on Thursday, 2/12 that the copper process was dusting abnormally. When questioned about the cause, operators were not sure but indicated that they believed the feed vat at the end of the belt filter may have been the cause of some dusting.

Immediate Corrective Action or Response

Troubleshoot the issue, identify the cause, and shut down to clean the area.

Immediate Cause

Still unknown, under investigation.

Spill Release Type(s)	**Non RQ Spill / Release**

Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Cu 1949	N/A	Solid	0	0	0	30	lbs

Disposition of Material	**Hosed down floors and equipment to trench to be treated by WWTP, vacuumed up material as well.**

Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

Upon investigating, it was found that the bottom port of the APV was unclamped allowing powder to escape.

In addition, the dust collection on the tote was not working. Upon investigating this issue, it was found that the outlet blower coupling had failed. With this failure, the system connected to the matcon tote was pressurized from the inlet blower allowing product to escape out the matcon lid seal.

Contributing Causes	Root/Primary Causes		
The bottom port hole was not properly sealed to the APV due to the clamp coming lose.	28 - Equipment Reliability Program Implementation LTA	36 - Predictive Maintenance LTA	37 - Detection LTA
When clamping down these port holes, whether with a new seal or not, there is no system in place to check security of the clamp to ensure that it is still fully latched.	28 - Equipment Reliability Program Implementation LTA	36 - Predictive Maintenance LTA	38 - Montoring LTA
There was a concern with the blower repair			

back in January but was not communicated to supervision. There was apparently an ongoing problem that was not made aware.	55 - Administrative/Management Systems	78 - Problem Identification/Control	80 - Problem Reporting LTA
Outlet blower coupling failed just over a month after a new one was installed.	28 - Equipment Reliability Program Implementation LTA	29 - Corrective Maintenance LTA	31 - Repair Implemtation LTA
Outlet blower couping failed causing the system to go positive pressure. Operator was unable to correct this condition. There is no interlock that shuts off the process when it goes positive.	15 - Design Input/Output	16 - Design Input LTA	16 - Design Input LTA

Explanation of Root Causes

28/36/37 - no system in place to detect potential failure of seal/clamp system.
28/36/38 - need to consider checking on security of the clamp after startup.
55/78/80 - a deficiency was identified yet the equipment was started back up without communicating to the proper people
28/29/31 - based on the coupling failure, it appears as though the repair made was LTA. It is possible that the blower was misaligned.
15/16/16 - this condition should have shut the process down.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	2,000.00 USD
Investigation Team	Abdallah Ahmed; Jack Pettry; Kirk Sullenberger; Thomas Copa; Robert Woolbright; Chris Currier; Michael Kanuch				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Include the need to inspect the effectiveness of the clamp after startup to ensure that it has not come lose in the appropriate document.	Jack Pettry/BASF-CATALYSTS/BASF	04/30/2015	02/17/2015	N	N
2	Add an operator PM to inspect the effectiveness of the port clamps on the APV.	Lee McClish/NA/BASF	03/31/2015	03/23/2015	N	N
3	Need to interlock the APV chamber pressure with the system that will shut down the feed screw and the APV product collector rotary valve (may be others).	Kirk Sullenberger/BASF-CATALYSTS/BASF	06/30/2015	07/10/2015	N	N
4	Report this issue to the reliability engineer to determine why the blower had a premature failure. Evaluate root cause of failure.	Lee McClish/NA/BASF	04/30/2015	04/27/2015	N	N

Approved By:

Manager / Dept. Head	**Abdallah Ahmed 03/01/2015 12:24 PM**
EHS Unit Coordinator	**Tim Anglin 03/03/2015 07:55 AM**
	Confidential

Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria		ELYRIA	0084-NOPS-15-0094
Report Date	Incident Date	Incident Time	Copied From
07/15/2015	07/15/2015	11:30 AM	
Incident Location		Team Leader / Supervisor	Reported By
Building 10-#2 micro mill		David D Hritsko	David D Hritsko
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Micro #2 mill dusting		☐ Safety & Health ☐ Environmental	CC / G-CCP

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☐ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☒ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

CU 1201 material was blowing by dust collector filters and leaking at start up of equipment

Immediate Corrective Action or Response

Shut off equipment

Immediate Cause

filters not seated properly

Cause Narrative

On 7-15-15. The operator assigned to Micro Mill #2 turned the power on to the equipment. After adding material to mill. Dust was escaping from the dust collector discharge. Operator immediately shut the equipment down.

Contributing Causes	Root/Primary Causes		
Operator needs more traing on the seating of the filters in dust collector.	163 - Training	170 - Training LTA	175 - On-the-Job Training LTA
Procedure doesn't properly cover the installation of filters.	111 - Procedures	117 - Misleading/Confusing	128 - Level of Detail LTA

Explanation of Root Causes

163-170-175 Operator wasn't aware that the filters needed to be positioned in a specific way in the dust collector. This was discovered when he was changing to the new filters after incident.

111-117-128 There's a procedure in place for mills(EOP020). But it has no detail for filters being installed or removed.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00 USD
Investigation Team	David D Hritsko; Thomas Copa; Jack Pettry; Mark Goodman				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Operater was trained. Will review with other operators in safety meeting.	Thomas Copa/NA/BASF	09/30/2015	08/26/2015	N	N
2	Update present procedure for the installation and	David D Hritsko/NA/BASF	09/18/2015	09/14/2015	N	N

	removal of filter for mill dust collectors.						

Approved By:		
Manager / Dept. Head	**Abdallah Ahmed**	**07/29/2015 03:00 PM**
EHS Unit Coordinator	**Valerie Topete**	**07/30/2015 05:01 PM**
	Confidential	

Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	Tableting – Building 10	ELYRIA	0084-NOPS-15-0104
Report Date	Incident Date	Incident Time	Copied From
07/25/2015	07/25/2015	02:15 PM	
Incident Location		Team Leader / Supervisor	Reported By
Kneader Bldg 10		Abe Ahmed	Abe Ahmed
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Kneader Cu-1986 Powder Released		☐ Safety & Health ☐ Environmental	CC / G-CCP

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

Kneader powder release seen by Production Manager while walking through the plant.

Immediate Corrective Action or Response

Operator immediately shut off the feed and began to clean the area.

Immediate Cause

Still under investigation. Appears as though this was an equipment malfunction. High level probe on the kneader flexicon feed hopper may not have shut off the feed (as designed) when it gets full. Product may have bridged over leaving the flexicon running dry and allowing product to build up until it found a place to escape.

Spill Release Type(s)	Non RQ Spill / Release

Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Cu 1986 Pill Mix	N/A	Dust	5	0	0	0	lbs

Disposition of Material	The dusting that escaped from the fitz mill didn't reach outside of building 10 in which the equipment is located. Area was vacuumed up into a drum , labeled and sent to solid waste.

Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

While material was feeding up into the fitz mill. The upper probe failed. This caused the material to keep running until it escaped out of the shafts in the fitz mill. This was ran in manual which the operator couldn't tell that the material was feeding as much as it did. The high level probe fault shouldn't allowed feed to run in manual.

Contributing Causes	Root/Primary Causes		
Equipment able to run in manual, bypassing the faulty probe.	15 - Design Input/Output	16 - Design Input LTA	16 - Design Input LTA
Ability to run feed in manual when probe failed.	163 - Training	164 - No Training	166 - Training Requirements Not Identified

Explanation of Root Causes

15 - 16 - 16. Operator switched feed into manual when probe faulted. This allowed material to continue to run without any measure of feed in fitz mill, causing it to overfill.

163 - 164 - 166. Operator placed feed into manual when probe failed so that he could fill hopper instead of stopping and informing GL an/or maintenance.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00 USD
Investigation Team	Thomas Copa; Jack Pettry; Mark Goodman; Abdallah Ahmed; Ted Meek				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Write work notification to investigate the wiring of high level probe to PLC.	Kirk Sullenberger/BASF-CATALYSTS/BASF	08/18/2015	08/14/2015	N	N
2	Investigate the wiring of high level probe to PLC to determine that it's actually tied into it. If not, will connect to PLC so that equipment will not run in manual if Probe faults.	Kirk Sullenberger/BASF-CATALYSTS/BASF	10/16/2015	10/23/2015	N	N
3	Speak with operators in monthly safety meeting that if Probe fails, do not run in manual and contact GL an/or Maintenance personnel immediately.	Thomas Copa/NA/BASF	08/28/2015	08/26/2015	N	N

Approved By:	
Manager / Dept. Head	**Abdallah Ahmed 08/14/2015 12:10 PM**
EHS Unit Coordinator	**Valerie Topete 08/14/2015 12:27 PM**
	Confidential

Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	**Copper - Building 10**	**ELYRIA**	**0084-NOPS-15-0111**
Report Date	Incident Date	Incident Time	Copied From
08/06/2015	**08/06/2015**	**01:22 PM**	
Incident Location		Team Leader / Supervisor	Reported By
Building 10, Chrome Makeup Tank		**Thomas Copa**	**Christopher B Currier**
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Building 10, Chrome Pump Failure		☐ Safety & Health ☐ Environmental	**CC / G-CCP**

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☒ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☒ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

Chrome pump in the copper department caught fire while pump was in the process of pumping chrome into chrome makeup tank. Flames were forcing out of the side of pump the size of 6" or less.

Immediate Corrective Action or Response

Put out fire with extinguisher

Immediate Cause

Faulty Pump, under investigation

Spill Release Type(s)	**Non RQ Spill / Release**

Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Chromic acid	11115-74-5 7738-94-5	Liquid	.2	0	0	0	lbs

Disposition of Material	**Put out fire with extinguisher. Hosed down residue around pump.**

Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

While the air pump was cycling chromic acid to the chrome makeup tank in the Copper department. The pump caught fire at the top exhaust area, causing flames to shoot upward into the air reaching 6" high, according to operator. The air valve to pump was shut off and the Flames were put out by operator with a fire extinguisher.

Contributing Causes	Root/Primary Causes		
Operator noticed on prior shift pump was running erratically.	28 - Equipment Reliability Program Implementation LTA	29 - Corrective Maintenance LTA	30 - Troubleshooting/Corrective Action LTA
Oil seperator may have allowed too much oil get through to pump.	15 - Design Input/Output	16 - Design Input LTA	16 - Design Input LTA

Explanation of Root Causes

28 - 29 - 30. Pump should had been shutdown when pump was noticed not running correctly. Maintenance should had been contacted at early point.
15 - 16 - 16. When the diaphragm failed in pump, chromic acid mixed with an incompatible material. This material was

most likely oil from the plant air system					
Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00 USD
Investigation Team	Thomas Copa; Jack Pettry; Mark Goodman; Abdallah Ahmed				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Speak with operator on the importance of reporting equipment issues early when detacted instead of running as is, in safety meeting.	Thomas Copa/NA/BASF	09/30/2015	08/26/2015	N	N
2	Investigate oil seperators on main air compressor to see if working properly.	Lee McClish/NA/BASF	09/30/2015	09/01/2015	N	N
3	Replace air pump.	Thomas Copa/NA/BASF	08/31/2015	08/14/2015	N	N

Approved By:	
Manager / Dept. Head	Abdallah Ahmed 08/14/2015 07:53 AM
EHS Unit Coordinator	Valerie Topete 08/13/2015 02:57 PM
	Confidential

Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	Pill Room – Building 13	ELYRIA	0084-NOPS-15-0128
Report Date	Incident Date	Incident Time	Copied From
09/08/2015	09/08/2015	01:00 PM	
Incident Location		Team Leader / Supervisor	Reported By
Tableting-building 13 dust collector		David D Hritsko	Kenneth S Docs
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Dust collector spill(Line 7-13) in tableting		☐ Safety & Health ☐ Environmental	CC / G-CCP

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☒ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

Operator removed full drum from dust collector hopper with slide gate open and built up powder above the drum emptied out on the floor

Immediate Corrective Action or Response

Cleaned up spill.

Immediate Cause

Dust collector slide gate was not closed prior to removing drum

Spill Release Type(s)	Non RQ Spill / Release						
Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Cu 0538	N/A	Solid	0	0	0	950	lbs

Disposition of Material	Collected into drums using shovels and appropriately labeled.			
Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

An operator was in the process of replacing a dust drum for line 13-18. This dust collector collects from the 13-18 hoppers, the 13-18 machines, the briquetter, and one of the screeners. Slide gate was not in the closed position when the drum was removed. The dust collector was turned off before starting this task. In addition, there should have never been that much product sitting in the dust collector hopper indicating that this dust collector went some shifts without being emptied. Estimate indicated in access of 900 pounds was lost to containment.

Contributing Causes	Root/Primary Causes		
There was not a set procedure for this specific task.	111 - Procedures	112 - Not Used	116 - No Procedure for Task
The positioning of the slide gate is confusing/counter-intuitive.	138 - Human Factors Engineering	160 - Intolerant System	161 - Errors Not Detectable
There is no level indication on the drum to know when it is full.	138 - Human Factors Engineering	140 - Workplace Layout	141 - Controls/Displays LTA
The dust collector was not being emptied on a regular basis allowing drums of product to build up in the dust collector hopper.	55 - Administrative/Management Systems	57 - Standards, Policies, or Administrative	63 - Responsibility for Item/Activity Not Adequately Defined

	Controls (SPACs) LTA

Explanation of Root Causes
111/112/116 - There is no procedure on how to do this task. Different operators were accomplishing this in different ways. **138/160/161 - There is no position indicator and actual positioner is actually opposite of most equipment.** **138/140141 - There is no visibility as to how full the drum is or an alarm indicating that the drum is full and needs replaced. Dependent on manual checks.** **55/57/63 - The requirement has never really been defined and/or enforced to have dust collectors emptied every shift. Had this been done, this incident would have never happened.**

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	2,500.00 USD
Investigation Team	Mark Goodman; Abe Ahmed; David D Hritsko; Kenneth S Docs				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Need to develop a procedure for managing the tableting dust collector, which includes emptying full drums.	Mark Goodman/NA/BASF	10/30/2015	10/09/2015	N	N
2	Label the manual slide gate on the tableting dust collectors to indicate valve positioning.	David D Hritsko/NA/BASF	10/16/2015	10/02/2015	N	N
3	Investigate cost of installing scales with local readout for dust collector drums and get added to the capital list.	Abdallah Ahmed/NA/BASF	10/30/2015	10/23/2015	N	N
4	Work with Production manager and Engineer to come up with a system to ensure that dust collectors are being emptied every single shift (checklist).	Thomas Copa/NA/BASF	12/31/2015	12/14/2015	N	N
5	Investigate dust collection set up in tableting and provide a recommendation as necessary to better segregate dust collection points on the various units (i.e. drop drum for briquetter, putting briquetter on its own dust collector, etc).	Mark Goodman/NA/BASF	10/30/2015	10/14/2015	N	N

Approved By:		
Manager / Dept. Head	**Abdallah Ahmed**	**09/17/2015 02:19 PM**
EHS Unit Coordinator	**Nancy Gallagher**	**10/01/2015 10:52 AM**
Safety & I.H.	**Valerie Douglas**	**10/01/2015 12:51 PM**
	Confidential	

Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	**Tableting – Building 26**	**ELYRIA**	**0084-NOPS-15-0180**
Report Date	Incident Date	Incident Time	Copied From
11/17/2015	**11/17/2015**	**08:00 AM**	
Incident Location		Team Leader / Supervisor	Reported By
South end of Building 26 After Filters		**Thomas Copa**	**Ken Pugh**
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
North Copper Calciner #1 HEPA Stack Release		☐ Safety & Health ☐ Environmental	**CC / G-CCP**

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☒ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

While switching the main draft HEPA filter by using the bypass valve for Copper Calciner #1. The CU 2046 Chrome product released out of the bypass stack, onto the pavement below. The HEPA after filters were full of powder.

Immediate Corrective Action or Response

Shut off immediately. Clean outside area.

Immediate Cause

Under investigation

Spill Release Type(s)	**Non RQ Spill / Release**						
Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
Cu 0246 P	NA	Dust	25	0	0	0	lbs

Disposition of Material	**Vacuum & Floor Scrubber**			
Weather Conditions	Skies: **Cloudy**	Temperature: **50 F**	Wind Direction: **W**	Wind Speed:

Cause Narrative

Primary filter was leaking and started to blind the HEPA. More than likely, this resulted in reduced duct velocity/air flow and material dropping out in the line.

When the bypass was opened back pressure was relieved, flow/velocity in the duct was increased and the material sitting in the duct was re-entrained in the air stream and discharged.

Contributing Causes	Root/Primary Causes		
No procedure detailing under what conditions the bypass valve should/shouldn't be used.	111 - Procedures	130 - Wrong/Incomplete	136 - Incomplete/Situation Not Covered
Primary filters were leaking and should not be.	15 - Design Input/Output	17 - Design Output LTA	17 - Design Output LTA

Explanation of Root Causes

111/130/136 - Proper use of bypass not detailed in procedure.

15/17/17 - We have had difficulty seating the filter since the day it was installed.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	2,500.00 USD
Investigation Team	Thomas Copa; Kenny Pugh; Abe Ahmed; Mark Goodman				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Develop/Revise a procedure on how to properly utilize the bypass when changing/looking at HEPA.	Jack Pettry/BASF-CATALYSTS/BASF	02/29/2016	12/09/2015	N	N
2	Schedule for new high temp filters to be installed on N/End RC#1 Main Draft Dust Collector. If this is not successful, reinitiate a capital project to replace entire unit.	Michael Baron/BASF-CATALYSTS/BASF	01/31/2016	02/02/2016	N	N
3	Consider adding HEPA dP reading to sheets detailing appropriate operating ranges.	Abdallah Ahmed/NA/BASF	02/29/2016	02/26/2016	N	N

Approved By:

Manager / Dept. Head	**Abdallah Ahmed 12/02/2015 03:37 PM**
EHS Unit Coordinator	**Valerie Douglas 12/02/2015 11:30 AM**
Ecology	**Tim Anglin 12/02/2015 09:35 AM**

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Accident / Incident Report Closed

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	**Tableting – Building 10**	**ELYRIA**	**0084-NOPS-16-0160**
Report Date	Incident Date	Incident Time	Copied From
08/11/2016	**08/10/2016**	**09:30 PM**	
Incident Location		Team Leader / Supervisor	Reported By
Kneader Bin Vent Dust Collector		**David D Hritsko**	**Ted Meek**
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Kneader Bin Vent Dust Collector		☐ Safety & Health ☐ Environmental	**CC / G-CCP**

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

Reverse pulse jet cleaning pipe came loose from its mounting and allowed dust to accumulate in the clean air chamber of the kneader bin vent dust collector. When the collector was restarted dust in the clean air chamber was mixed with the filtered air and exited the dust collector stack. Estimated one small hand full was discharged.

Immediate Corrective Action or Response

Evaluated source of dust and ran the dust collector. Dust stopped flowing from clean air space within 30 seconds.

Immediate Cause

Air blowdown pipe came loose from its mounting. When blowdown timer was repaired all blowdown pipes were able to actuate and the displaced blowdown pipe allowed air to blow in the clean air space. The air stirred up residual dust in the clean air place and it blew out the blowdown pipe tube sheet.

Spill Release Type(s): **Non RQ Spill / Release**

Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
CU 1152	N/A	Dust	0	0	0	1	lbs

Disposition of Material: **Material disposed of.**

Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

Powder from filter change was not clean from the clean air side of the filter change. When blowdown pipe came loose is stirred up the residual powder and it was blown out of the clean air space.

Contributing Causes	Root/Primary Causes
Procedure for filter change does not exist and did not indicate cleaning up residual dust.	111 - Procedures 112 - Not Used 116 - No Procedure for Task

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00 USD
Investigation Team	**Ted Meek; Michael Pavelschak; Charles Fern; David D Hritsko; William O Tuttle; Nancy Gallagher; Mark Goodman**				

Approved By:

Manager / Dept. Head **Abdallah Ahmed 08/26/2016 02:02 PM**

EHS Unit Coordinator	**Tim Anglin 08/26/2016 10:19 AM**
	Confidential

Accident / Incident Report Final - Pending Items

Unit/Department	Process Area	Site	Report Number
North Operations-Elyria	Tableting – Building 10	ELYRIA	0084-NOPS-16-0178
Report Date	Incident Date	Incident Time	Copied From
08/23/2016	08/23/2016	10:00 AM	
Incident Location		Team Leader / Supervisor	Reported By
Kneader Discharge Station		Thomas Copa	Abdallah Ahmed
Title of Event (Limit to 90 characters)		Category	Division / Bus. Group / Subgroup Code
Kneader Discharge Overflow		☐ Safety & Health ☐ Environmental	CC / G-CCP

Incident Classification

☐ Near Miss	☐ Property Loss	☐ Contractor
☐ Process Safety	☐ Citation / NOV	☐ Contractor Injury / Illness
☐ Injury / Illness	☐ Health Exposure	☐ Contract Injury / Illness
☒ Spill / Release	☐ Inspection	☐ PSM
☐ Permit / Regulatory Deviation	☐ Major Incident	☐ Plant Upset
☐ Fire	☐ Non-Occupational	☐ EHS Management System Failure
☐ Odor Complaint	☐ RMP	☐ Other

Describe Event / What Happened

While Production manager was making a round of the pill room department. He noticed that on the lid of the kneader discharge station, powder/product was present. There was also powder/product on the tote that was attached to discharge lid. He reported to Supervisor

Immediate Corrective Action or Response

Clean up product from spill area

Immediate Cause

Under investigation

Spill Release Type(s)	Non RQ Spill / Release

Chemical(s) Involved	CAS #	Phy. State	Air	Land	Water	Contmt	Units
CU 1152	N/A	Solid	0	0	0	10	lbs

Disposition of Material	Hose to trench, sent to WWTP			
Weather Conditions	Skies:	Temperature:	Wind Direction:	Wind Speed:

Cause Narrative

When the discharge flexicon discharges. The powder is escaping at the upper boot, above the hose, leading to the discharge lid(See attachment).

Contributing Causes	Root/Primary Causes		
Boot wasn't connected to the fill station flange.	28 - Equipment Reliability Program Implementation LTA	29 - Corrective Maintenance LTA	31 - Repair Implemtation LTA

Explanation of Root Causes

28 - 29 - 31 The clamp wasn't put back in place after repair to the fill station flange. Most likely at the end of repair to this area.

Any known or potential off-site impacts?	No	PSM Incident?	No	Estimated Cost:	500.00 USD
Investigation Team	Thomas Copa; William O Tuttle; Mark Goodman; Shawn Justice				

Item	Corrective Action(s) to prevent recurrence	Responsible Person	Target Date	Final Closed Date	VC Req	VE Req
1	Connect the hose to the fill station flange and secure clamp to it.	Thomas Copa/NA/BASF	10/31/2016	10/03/2016	N	N
2	Add stops to floor infront of scale to prevent tote/forklift from striking scale, moving it.	Thomas Copa/NA/BASF	11/25/2016	-	N	N

Approved By:		
Manager / Dept. Head	**Abdallah Ahmed**	**09/15/2016 01:15 PM**
EHS Unit Coordinator	**Nancy Gallagher**	**09/16/2016 02:19 PM**
	Confidential	